



# SHORT RESUME

## PERSONAL DATA

**Name:** Luis Carlos Carneiro Gonçalves

**Residence:** Maia, Porto, Portugal.

**Nationality:** Portuguese

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## Core Competencies

- PhD in Electrotechnical Engineering; University teaching; Management; Industry experience
- Degree in Electronics and Telecommunications
- Over 10 years of experience in Telecommunications and Radio Channel
- Image Processing in High Dynamic Range Images
- Parallel Computing with CUDA and OpenMP
- C++, C, Python, Matlab, Pspice and LabView
- Patent idea, major contributor, revision and submission

## Work Career

- **2023**, Senior Researcher in Global Navigation Satellite System (GNSS) at OHB Digital Solutions at Graz, Austria.
  - Implementation of MUSIC algorithm in Matlab, Python and C++. Field tests. Implementation in C++ of Filter to remove noise and outliers of the angles of arrival.
  - Computation of intersection point to find a jammer position with the information of the Angle of Arrivals in several linear arrays of two antennas.
- **2020-2022**, PostDoc Researcher at ESAN/University of Aveiro in Medical Digital Image Processing. 3D Image Registration. Packages SimpleITK, PyCuda. Unstructured image (Meshes) manipulation with C. Package VTK in C++ and Python. Package Ctypes (Python).
  - Developed Client-Server solution (Web Browser-Program Python and C) for Image Processing of the head and dentistry medical operation.
  - Facial preview of a bilateral sagittal split osteotomy (BSSO).
- **2018-2019**, Researcher of Institute of Telecommunications at Aveiro in 5G Telecommunications. Projects Mobilizador 5G and ORCIP. Subjects: OpenAirInterface, 5G.
- **2017-2018**, Ported program of Motorola DSP board (16 bits) to **Texas Instruments LAUNCHXL-F28069M** for Allied Motion, Vila do Conde, Portugal. Board with Texas Instruments DSP with functions of micro-controller ADC, PIO, Timer, 3 Phase PWM, Quadrature Decoder etc. CCSTUDIO IDE.
- **2017-2018**, Post-Doc Researcher at INESC TEC (Vila Real, Portugal) in **Digital Image Processing**. Knowledge, Mantiuk'08 TMO, IOIndustries Flare Camera + BitFlow Frame Grabber, Debevec Photo Merge, Photo Debayer, OpenCV, PFStools, HDRtools
  - Successfully reimplemented a widely used and highly regarded tone mapping algorithm for integrated High Dynamic Range video processing pipeline for object detection and tracking

- Developed a solution to capture and merge in HDR images using Low Dynamic Range Flare image camera
- **2014-2015**, Teaching at University of Aveiro *Introduction to Communication and Information Technology* to Management Degree. Microsoft Office: Excel, Word, Outlook and PowerPoint.
- **2014-2017**, Post-Doc Researcher at University of Aveiro on the subject: **High Performance Computing in Telecommunications**
- **2013-2014**, Post-Doc Researcher at Institute of Telecommunications at Aveiro on the subject **Cognitive Radio, Spectrum Occupancy**
- **2012-2013**, Post-Doc Researcher at Centre of Innovation in Telecommunications and Integration of Services (CITI) of Institut National des Sciences Appliquées (INSA) de Lyon, France on the subject: **Radio propagation, Wireless Signal Measurement and Baseband Signal Impairment Compensation**
- **2010-2012**, Post-Doc Researcher at Institute of Telecommunications at Aveiro on the subject: **Cognitive Radio, Spectrum Occupancy**
- **2010-2012**, Realization of three Software Projects for Globe Motors (now Allied Motion), Vila do Conde, Portugal
- **2009-2010**, Assistant Professor at Lusófona University at Lisbon, Portugal. Lectures and ruled Signals and Systems.
- **2008-2009**, Final phase of writing the thesis.
- **2004-2008**, Invited Lecturer at University of Madeira, Portugal. Lectures on Electronics I, Electronics II, Telecommunications Fundamentals, Telecommunications Fundamentals II, Telecommunications Systems, Digital Systems and Circuits Analysis.
- **1999-2003**, PhD Grant of FCT.
- **Before 1999**, worked at BLAUPUNKT, Audio and Video Company in Braga, Portugal and TEXAS INSTRUMENTS, Maia, Portugal

## Education

- **2009**, PhD in Electrotechnical Engineering (Telecommunications), Unanimous in University of Aveiro, *Frequency Domain Multiuser Detection for DS-CDMA Systems*.
- **1991**, Degree (5 years) in Electronics and Telecommunications Engineering, at Aveiro University with average/grade of 15/20.
- High School at Maia. Admission at University with an average/grade of 18.7/20.

## Patents

- **2015**, Luís Gonçalves (50% share), Diogo Cunha, Atílio Gameiro, *Method to Determine the Delay between Measurements in two or more Spectrum Analyzers or Power Meters*. Number PT 107293B.

## Publications

Published about 15 papers, in European Transactions on Telecommunications, IEEE Magazine, Elsevier Journal, Bentham Science Publishers Journal, major IEEE conferences and others

## Experience with Software

**C++, C, CUDA, OpenCL, OpenMP, Visual C, Gcc (Eclipse), Visual C++ Microsoft Foundation Classes, Python, LabView, Agilent ADS, System Studio of Synopsys, Latex, Microsoft Office, Matlab, Pspice, Code Composer Studio (Texas Instruments), MultiSim**, Maintenance of a Linux Virtual Server (IPv6 Compliant) with Web Server (SSL) and Email Server (DMARC, DKIM and SPF). At <http://www.luisgo.pro>

## Languages

Native in Portuguese, Fluent in English, Professional knowledge of French and Basic knowledge of German.